UNITED STATES PATENT AND TRADEMARK OFFICE

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ECKERT SEAMANS CHERIN & MELLOTT
600 GRANT STREET
44TH FLOOR
PITTSBURGH, PA 15219

EXAMINER
MEJIA, ANTHONY

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on <u>05/24/2006</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-18</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some *   c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>05/24/2006</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1.   Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No.

(60/524,036), filed on 11/24/2003.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-3, 11, 16, and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Graham (US 7,089,304) and in further view of Sproat et al. (US

2004/0042480) (herein after as Sproat)

       Regarding Claim 1, Graham teaches a method for use in a session-oriented

network (e.g., secure session to web, col.7, lines 52-53), comprising:

       for each session with a given endpoint (e.g., proxy server 230 service), said each

session comprising packets (e.g., metered packets, col.7, lines 9-10) exchanged

between said given endpoint and another endpoint (e.g., client 210) (col.6, lines 35-37,

and 52-55), said packets having one or both of control (e.g., charged time 330 and free

time 340, col.8 lines 43-45, and *see* fig.3) and payload data (e.g., other elements (e.g.,

packet type, sequence number, session identifier, packet authentication, etc.) is well

known in the art as being synonymous to payload data, col.2, lines 35-41 and col.8,

lines 50-52). Graham does not explicitly teach the step of creating a parallel session

having payload data mirroring all payload data of said each session which is destined

for said given endpoint.

However, Sproat in a similar field of endeavor such discloses a network service

provider architecture in a communications network including the step of creating a

parallel session (e.g., duplicate parallel packet stream) having payload data (e.g.,

packets contains payload data, par [0084]) mirroring (duplicating) all payload data of

said each session which is destined for said given endpoint (e.g., network service

provider device) (par [0098] and *see* fig.10, steps 1003 and 1004). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to utilize the

teachings of Sproat in Graham in order to be able to be able to duplicate the data being

sent in a session. One of ordinary skill in the art at the time the invention was made

would have been motivated to combine the teachings of Graham and Sproat to help

optimize fault-tolerance on the system.

Regarding Claim 2, the combined teachings of Graham and Sproat teach the

method of claim 1 as described above. The combined teachings of Graham and Sproat

further teach wherein said each session with a given endpoint is an original session

(Graham: e.g., session key is only communicated between said given point and said another point, inherently making the session original, col.6, lines 63-65) and further comprising:

in a given parallel session (Sproat: e.g., duplicate parallel packet stream, par [0098] and *see* fig.10, steps 1003 and 1004), receiving control information (Graham: charged time 330 and free time 340, col.8 lines 43-45, and *see* fig.3); and

for a particular original session from which said given parallel session was derived, injecting (Graham: e.g., act of receiving headers, indications, identifiers, and session keys from login service on proxy server, at the client) said control information in said particular original session directed to said given endpoint and to said another endpoint for said particular original session (Graham: col.10, lines 20-28).

Regarding Claim 3, the combined teachings of Graham and Sproat teach the method of claim 2 as described above. The combined teachings of Graham and Sproat further teach wherein said creating a parallel session (Sproat: e.g., duplicate parallel packet stream, par [0098] and *see* fig.10, steps 1003 and 1004) further comprises creating said parallel session having control information (Graham: charged time 330 and free time 340, col.8 lines 43-45, and *see* fig.3) mirroring (duplicating) all control information of said each original session (Sproat: par [0098] and *see* fig.10, steps 1003 and 1004).

Regarding Claim 11, the combined teachings of Graham and Sproat teach the

method of claim 1 as described above. The combined teachings of Graham and Sproat

further teach screening said payload data for illegitimate requests (Graham: col.8, lines

23-24).

Regarding Claim 16, the combined teachings of Graham and Sproat teach a

session re-constructor (Graham: e.g., proxy service 230 server may be dynamically

implemented, col.5, lines 3-17), comprising:

an interface (Graham: e.g., network interface 220b) for connection to a session-

oriented network (Graham: *see* fig. 2);

an interface (Graham: e.g., network interface 220a) for connection to a given

endpoint (Graham: proxy service 230 server, *see* fig.2);

a processor (inherently a proxy, clients, servers have a processor, Graham:

col.5, lines 10-16) for, for each session with said given endpoint (e.g., Graham: proxy

server 230, col.7-12), said each session comprising packets (e.g., Graham: metered

packets, col.7, lines 9-10) exchanged between said given endpoint and another

endpoint (Graham: e.g., client 210) (Graham: col.6, lines 35-37, and 52-55), said

packets having one or both of control (Graham: charged time 330 and free time 340,

col.8 lines 43-45, and *see* fig.3) and payload data (Graham: e.g., other elements (e.g.,

packet type, sequence number, session identifier, packet authentication, etc.) is well

known in the art as being synonymous to payload data, col.2, lines 35-41 and col.8,

lines 50-52);

creating a parallel session (Sproat: e.g., duplicate parallel packet stream) having

payload data (Sproat: e.g., packets contains payload data, par [0084]) mirroring

(duplicating) all payload data of said each session (Sproat: par [0098] and *see* fig.10,

steps 1003 and 1004) which is destined for said given endpoint (Sproat: e.g., network

service provider device) (Sproat: par [0098] and *see* fig.10, steps 1003 and 1004).

Regarding Claim 18, the combined teachings of Graham and Sproat teach a

computer readable medium (Graham: col.4, lines 43-53) containing computer

executable instructions for causing a processor connected into a session-oriented

network to:

for each session with a given endpoint (Graham: proxy service 230 server), said

each session comprising packets (Graham: metered packets, col.7, lines 9-10)

exchanged between said given endpoint and another endpoint (Graham: client 210)

(Graham: col.6, lines 35-37, and 52-55), said packets having one or both of control

(Graham: charged time 330 and free time 340, col.8 lines 43-45, and *see* fig.3) and

payload data (Graham: e.g., other elements (Graham: e.g., packet type, sequence

number, session identifier, packet authentication, etc.),

creating a parallel session (Sproat: e.g., duplicate parallel packet stream)

having payload data (Sproat: e.g., packets contains payload data, par [0084]) mirroring

(duplicating) all payload data of said each session which is destined for said given

endpoint (Sproat: e.g., network service provider device) (Sproat: par [0098] and *see* fig.10, steps 1003 and 1004).

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4. Claims 4-9, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham and Sproat and in further view of Kirby et al. (US 5,828,846)

Regarding Claim 4, the combined teachings of Graham and Sproat teach the method of claim 3 as described above. The combined teachings of Graham and Sproat do not explicitly teach wherein said control information injected into said particular original session is a session termination command.

However, Kirby in a similar field of endeavor teaches wherein control information injected into a particular original session is a session termination command (e.g., FIN) (col.4, lines 61-64). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kirby in Graham/Sproat in order to properly terminate the session. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Graham/Sproat and Kirby to optimize control of the interaction between the endpoints.

Regarding Claim 5, the combined teachings of Graham/Sproat/Kirby teach the method of claim 4 as described above. The combined teachings of

Graham/Sproat/Kirby further teach wherein said network follows Internet protocol

(Graham: e.g., HTTP, col.6, lines 24-26).

Regarding Claim 6, the combined teachings of Graham/Sproat/Kirby teach the

method of claim 5 as described above. The combined teachings of

Graham/Sproat/Kirby further teach wherein said network follows transport control

protocol (Kirby: col.1, lines 49-50 and col.3, line 12).

Regarding Claim 7, the combined teachings of Graham/Sproat/Kirby teach the

method of claim 6 as described above. The combined teachings of

Graham/Sproat/Kirby further teach wherein comprising tracking sequence numbers of

said particular original session (Graham: col.2, lines 56-63) and wherein said injecting

said control information (Graham: charged time 330 and free time 340, col.8 lines 43-

45, col.10, lines 40-42, and *see* fig.3) in said particular original session comprises

injecting control information (Graham: e.g., charged time 330 and free time 340, col.8

lines 43-45, and *see* fig.3) together with expected sequence numbers (Graham: e.g.,

both (ii) unique session identifier, and (iii) indication on how frequently the client should

send packets, inherently contains expected sequence numbers in order to perform

these respective steps).

Regarding Claim 8, the combined teachings of Graham/Sproat/Kirby teach the

method of claim 7 as described above. The combined teachings of

Graham/Sproat/Kirby teach wherein said given endpoint is a server for satisfying

browser- based requests (Graham: e.g., Unix Daemon, inherently handles browser-

based requests for services, col.6, lines 32-33)

Regarding Claim 9, the combined teachings of Graham/Sproat/Kirby teach the

method of claim 7 as described above. The combined teachings of

Graham/Sproat/Kirby further teach wherein said given endpoint is a server for providing

web services (Graham: col.6, lines 18-19, and *see* fig.2).

Regarding Claim 12, the combined teachings of Graham and Sproat teach the

method of claim 11 as described above. The combined teachings of Graham and

Sproat further teach wherein said each session with a given endpoint is an original

session (Graham: e.g., session key is only communicated between said given point and

said another point, inherently making the session original, col.6, lines 63-65) and further

comprising:

on finding an illegitimate request (Graham: col.8, lines 23-24) in respect of a

given original session. Kirby further teaches injecting a session termination command

(Kirby: e.g., FIN) into said given original session directed to said given endpoint and to

said another endpoint for said particular original session(Kirby: col.4, lines 61-64).

Regarding Claim 13, the combined teachings of Graham and Sproat teach the

method of claim 1 as described above. Kirby further teaches screening said payload

data (packet contains payload data as described in claim 1 above) for events (wherein the term "events" is being interpreted as e-mails with a sender matching an entry in a stored list of senders) (Kirby: col.4, lines 42-45, and col.2, lines 35-38).

Regarding Claim 14, the combined teachings of Graham/Sproat/Kirby teach the method of claim 13 as described above. The combined teachings of Graham/Sproat/Kirby further teach wherein said each session with a given endpoint is an original session (Graham: e.g., session key is only communicated between said given point and said another point, inherently making the session original, col.6, lines 63-65) and further comprising:

on determining an event in respect of a given original session, logging said event (Kirby: col.4, lines 36-41).

Regarding Claim 15, the combined teachings of Graham/Sproat/Kirby teach the method of claim 14 wherein said event is an e-mail message having certain parameters (e.g., rules) (Kirby: col.4, lines 42-45, and col.2, lines 25-34).

5.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham and Sproat and in further view of Brendel (US 6,587,438)

Regarding Claim 10, the combined teachings of Graham and Sproat teach the method of claim 1 as described above. The combined teachings of Graham and Sproat further teach wherein said each session with a given endpoint is an original session (Graham: e.g., session key is only communicated between said given point and said another point, inherently making the session original, col.6, lines 63-65). The combined teachings of Graham and Sproat do not explicitly teach the step wherein a given parallel session has an initial sequence number differing from an initial sequence number of a particular original session from which said given parallel session was derived.

However, Brendel in a similar field of endeavor discloses an optimal path through the Internet to the client is determined by the server during connection establishment including the step wherein a given parallel session has an initial sequence number differing from an initial sequence number of a particular original session from which said given parallel session was derived (e.g., different sequence numbers are inserted into the replicated packets (parallel session) from the sequence number of the packets received (original session), col.13, lines 66-67, and col.14, lines 1-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Brendel in Graham/Sproat in order to optimize the proper correction of the sequence and acknowledgement numbers received for later packets (col.14, lines 5-8). One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings of Graham/Sproat and Brendel to be optimize the proper flow of the packets being sent in the sessions of the system.

6.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham

and Sproat and in further view of Schweitzer et al. (US 2004/0049576) (referred herein

after as Schweitzer)

        Regarding Claim 17, the combined teachings of Graham and Sproat teach the

session re-constructor of claim 16 as described above. The combined teachings of

Graham and Sproat further teach a memory (database) for storing information on said

each session (Graham: *see* fig.4b, steps 798 and 790). The combined teachings of

Graham and Sproat do not explicitly teach the steps wherein the information on said

each session stored in memory is stored in the form of a table; nor wherein said

information comprises: an address of said another endpoint; a port number of said

another endpoint, a sequence number of said another endpoint; a port number of said

given endpoint, and a sequence number of said given point.

        However, Schweitzer in a similar field of endeavor such as a method and

apparatus for session reconstruction teaches the steps of:

        storing a table (e.g., summary) with (includes) information on said each session,

said information comprising an address of said another endpoint,

        a port number of said another endpoint, a sequence number of said another

endpoint,

a port number of said given endpoint and a sequence number of said given point (par

[0079 and 0089]).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Schweitzer in Graham/Sproat in order to

be able to properly organize statistics about the sessions on the system. One of

ordinary skill in the art at the time the invention was made would have been motivated

to combine the teachings of Graham/Sproat and Schweitzer in order to be help optimize

the management on the quality of service and latency of the system.

Other Pertinent Prior Art

7.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

A. Virtanen et al. (US 7,130,266) disclose a method for handling data packets.

B. Mutalik et al. (US 7,149,787) disclose an apparatus and method for mirroring

and restoring data.

C.Kamvysselis et al. (US 6,496,908) disclose a system for remote mirroring.

D.Yanovsky (US 7,310,815) discloses a method and apparatus for data stream

analysis and blocking.

E. Bonney et al. (US 2003/0145039) disclose a network analyzer having

distributed packet replay and triggering.

F. Dixon et al. (US 6,058,424) disclose a system and method for transferring a

session from one application server to another without losing existing resources.

G. Burg (US 7,039,040) discloses a network-based system and method for providing anonymous voice communications.

H. Balissat et al. (US 2003/0191963) disclose a method and system for securely scanning network traffic.

I. Bergsten et al. (US 2002/0152429) disclose a method and apparatus for managing session information.

J. Finkelstein et al. (US 5,319,712) disclose a method and apparatus for providing cryptographic protection of a data stream in a communication system.

K. Colie et al. (US 6,006,268) disclose a method and apparatus for reducing overhead on a proxied connection.

L. Bennett (US 7,317,736) discloses a system and method for reliable delivery of datagram protocol data unit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY MEJIA whose telephone number is (571)270-3630. The examiner can normally be reached on Mon-Thur 9:30AM-8:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mejia, Anthony
Patent Examiner

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2151